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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/827,169	04/06/2001	Warren B. Jackson	105778	2154

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EXAMINER

PHAM, THOMAS K

ART UNIT PAPER NUMBER

2121

DATE MAILED: 09/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/827,169

Applicant(s)

JACKSON ET AL.

Examiner

Thomas K. Pham

Art Unit

2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

First Action on the Merits

1. Original claims 1-26 of U.S. Application 09/827,169 filed on 04/06/2001 are presented for examination.

Quotations of U.S. Code Title 35

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims Objective

6. Claims 13-26 are objected to because of the following informalities: misnumbered from the second claim 13 to claim 26. Appropriate correction is required.

7. For the purpose of examination, Examiner is re-numbering from the second claim 13 to claim 26 as re-numbered claims 14-27. Therefore, claims 1-27 are presented for examination.

Claim Rejections - 35 USC § 101

8. The language of the claim raises a question as to whether the claim is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101.

The re-numbered claims 17-27 are rejected under 35 U.S.C. 101 as not being tangible since the steps of the method do not require use of hardware or computer system to accomplish the steps. For example, any person can allocate a goal to a person, an object or a thing without a need for a functional hardware or computer system.

Claim Rejections - 35 USC § 102

9. Claims 1-2, 4-14, 16-27 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,392,382 ("Schoppers").

Regarding claim 1

Schoppers teaches an implementation unit system, comprising:

- a plurality of implementation units (see col. 4 lines 59-64, "actuators"), a controller that generates a system goal (see col. 4 lines 41-56); and

- an allocator that receives the system goal, partitions the system goal into a plurality of sub-goals based on an allocation parameter (see col. 7 lines 53-60), and
- allocates the sub-goals to at least one of: the plurality of implementation units, and a plurality of implementation modules comprising a group of the plurality of implementation units, wherein the allocator controls the implementation of the plurality of implementation units (see col. 9 lines 5-15).

Regarding claim 13

Schopper teaches a method for allocating a system instruction to a plurality of actuators, comprising:

- grouping the plurality of actuators into a plurality of module actuators comprising at least one of a plurality of sub-module actuators and at least one of the plurality of actuators, wherein each of the plurality of sub-module actuators includes at least one of the plurality of actuators (see col. 4 lines 41-64);
- partitioning the system instruction into a plurality of sub-instructions for each of the plurality of module actuators based on at least one allocation parameter (see col. 7 lines 53-60);
- allocating each of the plurality of sub-instructions to at least one of the plurality of sub-module actuators if the module actuator includes the plurality of sub-module actuators (see col. 10 lines 45-60); and
- actuating the at least one of the plurality of actuators within the at least one sub-module actuator based on the sub-instructions, if the module actuator does not include the plurality of sub-module actuators (see col. 9 lines 5-15).

Regarding claim 17

Schopper teaches a method for allocating a desired goal to a plurality of actuators, comprising:

- establishing a plurality of allocation levels arranged in a hierarchical manner (see col. 8 lines 41-54); and for each allocation level:
 - o identifying the number of module allocators within the allocation level (see col. 10 lines 54-60); and for each module allocator:
 - receiving an allocation goal that is at least one of the desired goal and a module actuation goal from one of the plurality of allocation levels that is higher in hierarchical order than the allocation level (see col. 10 lines 3-15); and
 - identifying an allocation parameter for the module allocator (see col. 10 lines 45-54);
 - generating the module actuation goal by partitioning the actuation goal based on the allocation parameter (see col. 7 lines 53-60);
 - determining whether the allocation level is a bottom allocation level (see col. 10 lines 50-60);
 - allocating the module actuation goal to one of the module allocators within one of the plurality of allocation levels that is lower in hierarchical order than the allocation level, if it determined that the allocation level is not the bottom allocation level (see col. 10 lines 45-60); and

- assigning the module actuation goal to at least one actuator of the array of actuators controlled by the module allocator if it is determined that the allocation level is the bottom allocation level (see col. 9 lines 5-15).

Regarding claim 19

Schopper teaches a method for allocating a goal to a plurality of implementation units, comprising:

- grouping the implementation units into at least one group based on a first parameter (see col. 4 lines 41-64);
- dividing the at least one group into a plurality of sub-groups based on a second parameter (see col. 7 lines 53-60);
- allocating the goal to the at least one group based on dividing the goal into a plurality of sub-goals (see col. 10 lines 1-15).

Regarding claim 20

Schopper teaches a method for allocating a goal, comprising:

- receiving the goal (see col. 10 lines 3-15);
- obtaining an allocation parameter (see col. 10 lines 50-60);
- partitioning the goal into a plurality of sub-goals based on the allocation parameter (see col. 7 lines 53-60); and
- allocating the goal to at least one of a plurality of implementation units and a plurality of groups of the plurality of implementation units (see col. 10 lines 1-15).

Regarding claim 2

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Schopper teaches at least one sensor that detects an implementation state of at least one of the plurality of implementation units and provides the controller with the implementation state, wherein the controller generates the system goal based on the implementation state (see col. 10 lines 45-50).

Regarding claim 4

Schopper teaches an input source that provides system objective to the controller, wherein the controller generates the system goal based on the system objective signal (see col. 5 lines 20-34).

Regarding claim 5

Schopper teaches the input source is a computer (see col. 5 lines 1-17).

Regarding claim 6

Schopper teaches the controller is remotely located from the plurality of actuators (see col. 4 lines 41-56). *It should be noted that the term "remotely located" can be broadly defined as separately located in the same location or not.*

Regarding claim 7

Schopper teaches at least one sensor that detects an implementation state of at least one of the plurality of implementation units and provides the controller with the implementation state (see col. 4 lines 51-56); and an input source that provides an input signal to the controller, wherein the controller generates the system goal based on the implementation state and the input signal (see col. 5 lines 20-34).

Regarding claim 8

Schopper teaches the allocation parameter is predefined (see col. 5 line 35 to col. 6 line 4, "primitive").

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Regarding claim 9

Schopper teaches the allocation parameter is identity of the plurality of implementation modules under the control of the allocator (see col. 7 lines 20-38).

Regarding claim 10

Schopper teaches the allocator partitions the system goal into the plurality of sub-goals based on the allocation parameter and a second allocation parameter (see col. 7 lines 53-60), wherein the second allocation parameter is a location identifier for at least one of: the plurality of implementation units, and the implementation modules (see Table 1-3 and col. 7 lines 20-38).

Regarding claim 11

Schopper teaches the allocator partitions the system goal into the plurality of sub-goals based on the allocation parameter, a second allocation parameter and a third allocation parameter (see col. 7 lines 53-60), wherein the second allocation parameter is a location identifier and the third allocation parameter is a weighting factor for at least one of: the plurality of implementation units, and the implementation modules (see Table 1-3 and col. 7 lines 20-38).

Regarding claim 12

Schopper teaches the allocator further includes a plurality of hierarchical allocation levels each of which include at least one module allocator that allocate the sub-goals (see col. 8 lines 41-54).

Regarding claim 14

Schopper teaches the grouping step is based on a physical layout of the plurality of actuators (see col. 9 lines 5-15).

Regarding claim 16

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Schopper teaches the allocation parameter includes at least one of: the number of the plurality of sub-module actuators; and the number of the plurality of module actuators (see col. 4 lines 45-64, “actuators 102”).

Regarding claim 18

Schopper teaches the number of module allocators identified in the identifying the number of module allocators step is predefined (see col. 5 line 35 to col. 6 line 4, “primitive”).

Regarding claim 21

Schopper teaches the allocation parameter is predetermined (see col. 5 line 35 to col. 6 line 4).

Regarding claim 22

Schopper teaches the allocation parameter is an indication of the number of groups of plurality of implementation units to which the goal is to be allocated (see col. 7 lines 20-38).

Regarding claim 23

Schopper teaches the obtaining step further comprises obtaining a second allocation parameter (see col. 5 line 35 to col. 6 line 4).

Regarding claim 24

Schopper teaches the second allocation parameter is a location identifier for at least one of the plurality of implementation units and the plurality of groups to which the goal is to be allocated (see Table 1-3 and col. 7 lines 20-38).

Regarding claim 25

Schopper teaches partition the goal based on the allocation parameter and the second allocation parameter (see col. 7 lines 53-60).

Regarding claim 26

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Schopper teaches obtaining a third allocation parameter (see col. 5 line 35 to col. 6 line 4); and the partitioning step further comprises partitioning the goal based on the allocation parameter, the second allocation parameter and the third allocation parameter (see col. 7 lines 53-60).

Regarding claim 27

Schopper teaches the third allocation parameter is a allocation weighting factor for at least one of the plurality of implementation units and the plurality of groups to which the goal is to be allocated (see Table 1-3 and col. 7 lines 20-38).

Claim Rejections - 35 USC § 103

10. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,392,382 ("Schoppers") in view of U.S. Patent No. 6,039,316 ("Jackson").

Regarding claim 3

Schoppers teaches a control system with hierarchical controlling action with a plurality of actuators but does not teach the at least one of the plurality of actuators is an air jet.

However, Jackson shows that the plurality of actuators in a multi-hierarchical control system can be air jet actuators (see FIG. 2 "air jet actuators 202" and col. 3 lines 61-67) for the purpose of moving objects relative to a transport assembly (see col. 2 lines 50-55).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the air jet actuators of Jackson with the controlling system of Schoppers because it would provide the system of Schoppers the ability of moving objects relative to a transport assembly using the air jet actuators.

Allowable Subject Matter

11. Claim 15 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner *Thomas Pham*; whose telephone number is (571) 272-3689, Monday - Thursday from 6:30 AM - 5:00 PM EST or contact Supervisor *Mr. Anthony Knight* at (571) 272-3687.

Any response to this office action should be mailed to: **Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313-1450**. Responses may also be faxed to the **official fax number (571) 273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thomas Pham
Patent Examiner



September 6, 2005